EDITORIAL

Inept and satisfied, redux

Twenty-one years ago, I went to the National Library of Medicine (NLM) as a library associate. In those days (and I think this is still the case), the first couple of months of the program included orientations and training across the full range of NLM programs and services. We spent an entire week getting indexing training from Thelma Charen, the grande dame of NLM indexing (she literally ''wrote the book'' [1, 2]). We spent another entire week learning how to search the various MEDLARS databases, using ''Silent 700'' terminals, where you stuck the telephone handset into a cradle above the keyboard and watched your search results print out on thermal paper. ''GIGO,'' the computer programmers would say: ''garbage in, garbage out.'' We were taught that unless you understood the structure of the database, the details of the commands, the intricacies of indexing, you should not be allowed to have access to the database. Not just that you would not do good searches, but that you should not be *allowed* to access the database. It would be bad for you if you were not properly trained.

A year or two later, I was editing the *NLM Technical Bulletin,* sent out to everyone who held a MEDLARS user ID. We mailed out a few hundred copies every month. That did not represent the entire universe of MEDLINE searching, because by then many people searched MEDLINE via DIALOG or BRS—but, generally, even those searchers had a MEDLARS code as backup. To be a medical librarian was to be an expert searcher, and expert searching meant mastering MEDLINE. Then came Grateful Med. By the time I left NLM, in the spring of 1987, we were mailing out several *thousand* copies of the *Technical Bulletin.* It was the beginning of ''end-user searching.'' And librarians were pretty freaked out.

While still an associate, I did some investigating of videodisc technology. You may recall the vid-eodisc—these early experiments in optical technology still encoded the information on them in analog form. While reading everything I could find on the topic, I came across an article describing work being done on ''compact discs''—smaller than the videodiscs and a true digital medium. It was interesting technology, but the discs, or ''CD-ROMs'' as they were being called, seemed to be so much more limited than magnetic storage that some commentators complained there was not really a foreseeable use for them. Maybe they could be used for database distribution? (And I wonder who it was who first realized that the amount of storage on those early discs was just about what one would need to encode the length of a long-playing record album.)

The online vendors jumped on it. Pretty soon a library had several options for licensing MEDLINE on CD-ROM, and librarians put computers up in the reference area and let medical students and doctors do their own searching. In 1988, NLM sponsored an evaluation of the currently available products. I was at St. Louis University by then, and we participated in the evaluation. (A symposium was then held at NLM, and the results were published under the title *MEDLINE on CD-ROM* [3].)

It was while we were designing our evaluation methodology that I became concerned about a central aspect of library evaluation. We wanted, of course, to find out how satisfied our users were with the systems, but it became clear very quickly that their satisfaction levels and the degree to which they were really getting useful stuff out of their searches had no discernible relationship. Often, in fact, their searching was abominable. I coined the phrase, ''the inept and satisfied end user'' to describe the phenomenon and published a short piece in *Medical Reference Services Quarterly* [4].

You could visualize the situation by thinking of a grid in which one axis represented satisfaction and the other represented aptitude. One quadrant would be for those people who used the system well and were satisfied with the results. That was where we wanted everybody to be. The novices, we imagined, would be in the quadrant for the inept and dissatisfied. They were unsure of the commands, did not understand the structure of the database, got confused about Medical Subject Headings (MeSH) terminology and Boolean logic, and were generally frustrated. But they were also the most likely to ask for help, so we could work with them, patiently explain to and teach them, and, with luck, move them into the skilled and satisfied group. Sometimes, though, we would run into people who were using the system well but were still dissatisfied. Generally, their frustration came from wanting the system to do things it was not designed for. It was too early in the age of digital information for people to be terribly frustrated by the lack of full text, but they might want different indexing terms, more current information, or broader coverage. As with the novices, though, they would be likely to self-identify, and we could work with them and learn from them about what the next generation of systems ought to include.

So, for various reasons, I did not worry too much about the people in those groups. The people I worried about were the remainder—the inept and satisfied: the people who thought that a single-term search that retrieved 500 postings in MEDLINE was good enough or who combined the main heading ''Drug Therapy'' with the anatomical term ''heart'' and thought they were covering the waterfront for articles dealing with pharmaceutical treatments for cardiac arrest. These people would *not* self-identify; they would take their printouts of citations and abstracts and blithely go back to their offices or (frightening

thought) clinics, ready to get back to work, thinking how great the library was for providing this marvelous tool.

Those were the days when not everyone had a computer and people still needed to ''learn'' word processing. WordPerfect was the market leader, although Word was making headway. Several other word processing products had their own devoted partisans. Arguments could get heated about which was the ''best'' program. And the thought of being forced to switch from one to another could induce nightmares.

As we compared the different MEDLINE on CD-ROM products, I thought about word processing. Learning a particular word processing package was analogous to learning a particular vendor's search system—BRS, SilverPlatter, or that johnny-come-lately, CD-Plus. They had a limited number of commands, each of which did a particular thing. With time and practice, you could learn the commands and become expert in manipulating the software—just like learning WordPerfect or Word. But no one imagined that mastering WordPerfect's commands would make one capable of constructing a good sentence or a good paragraph or understand how to structure a convincing rhetorical argument. That was *writing*; and it was a separate intellectual skill. The software was a handy tool, but it was not going to teach anyone how to write.

Librarians understood (whether or not they articulated it in this way) that a similar intellectual activity was at play in searching the MEDLINE database. Scope and coverage, Boolean logic, coordinated headings and subheadings, intricacies of the vocabulary—these were all independent of any particular search software. If you did not understand how they operated, how the indexing was handled, and how the database was constructed, you would not be able to do a good search any more than a fourth grader who had mastered WordPerfect's auto-format and style com-

mands would be able to write a decent short story. Librarians knew that. But the end users did not.

This past October, I was in Sebasco Harbor, Maine, for the annual meeting of the North Atlantic Health Sciences Libraries (NAHSL). One afternoon, I facilitated a couple of discussion sessions about our future as librarians. The weather was splendid, and (at the suggestion of Jay Daly of QuickDOC fame) I held the sessions outside, with people sitting on picnic tables and folding chairs, out on the lawn with the trees just beginning to change colors and the waters of the bay blue and crisp a little way off. The discussions were very engaging and insightful (smart librarians, up there in the northeast), and, at one point, we found ourselves talking about the ''right'' way to search and our frustrations with the increasing reliance that physicians were making on Google searches. Bad enough that fifteen years ago they were satisfied with crummy MEDLINE searches, but now they were happy with Google searches! Yikes!

I suppose it was a cheap shot, but I asked the group how many of them turned to Google when they wanted to get a handle on a topic they were not entirely sure about. Just about every hand went up, of course. Google is a great tool. We all use it. And we should. And so should our physicians and students and administrators and researchers and nurses and all the rest.

But perhaps what we contribute is that we are not *satisfied* with it. The conversation on that pretty October afternoon went in a different direction, but I suspect that had we pursued it, many of the group would have defended their use of Google and their concern with others' use of it by emphasizing the background knowledge that a librarian brings to the task. We know that Google is only one tool. We know how to look through that list of Websites and pick the ones that are likeliest to be worthwhile. We know how to move on from that Google search to other sources that

will give us more finely tuned information. We are afraid that the people we serve do not know these things. And that is why we worry.

The days when librarians could serve as the gatekeepers to good information are over, and they are not coming back. The irony, perhaps, is that people need our skills now more than ever. One of the assumptions behind Grateful Med, and the other end user MEDLINE products, was that the software would be sophisticated and ''smart'' enough to compensate for the lack of training on the part of the user. Librarians learned soon enough that this was a faulty assumption, and, now in the Internet age, the information space has become vastly more complicated and far more difficult to navigate with skill. From this vantage point, the days when we worried about teaching medical students to search MEDLINE efficiently look like a very simple time. Now, more than ever, it is critical to teach people how to make use of the entire information system—and that means not just knowing how to create a good MEDLINE search, but knowing how to select from that vast array of resources that are now available and understanding how to interpret the various results. It means knowing how to make the best use of Google and other Internet search engines, as well as knowing when to call on the assistance of an expert librarian.

The articles on expert searching in this issue describe a variety of ways of thinking about what we do, along with ways in which we can continue to put our expertise to good use. The ''evidence-based'' movements, with their heavy emphasis on systematic and comprehensive reviews of the available literature, are making many researchers and practitioners more aware than ever of the importance of specialized expertise in searching. And, increasingly, individuals are finding themselves frustrated by their own efforts in making their way through the information space. This frustration represents our

opportunity. I never have figured out how to adequately deal with the inept and satisfied, and I still worry about them. But we know that many people in our institutions will welcome our help. We will never be able to reach or persuade all of those who are satisfied with searches that we know are inefficient, inexact, and misleading, but the very complexity that can be so daunting to many gives us marvelous opportunities to shine. We are a long way from the days when reference librarians could happily spend hours in a day doing MEDLINE searches for their patrons. The challenge now is to work tirelessly to educate and enlighten those we can and to establish the partnerships that will steadily enhance our reputations as those who can best be counted on to blaze a trail through the information wilderness.

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